Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Review of the Commission's Rules Governing the 896-901/935-940 MHz Band	)	WT Docket No. 17-200
	)	
	)	
Realignment of the 896-901/935-940 MHz Band to Create a Private Enterprise Broadband Allocation	)	RM-11738 (Terminated)
	)	
Amendment of the Commission's Rules to Allow for Specialized Mobile Radio Services Over 900 MHz Business/Industrial Land Transportation Frequencies	)	RM-11755 (Terminated)

To: The Commission

REPLY COMMENTS OF JOHN WEHMANN

These comments are submitted in response to FCC 17-200, Notice of Inquiry, adopted August 4, 2017.

I have over a decade of rebanding experience and was personally involved with over 1,500 rebanding projects in the FCC's most recent 800 MHz rebanding project.[1] Prior to my experience with the 800 MHz rebanding project, I spent many years managing a large oil and natural gas utility's telecommunication systems that included telephony, cellular, microwave, fiber optic, telemetry, SMR 2-way radio, paging, and mobile data systems. pdvWireless requested that

[1] See 800 MHz Report and Order

I document and submit on their behalf my feedback on the 900MHz reconfiguration comments based on what I experienced in the 800 MHz rebanding efforts. I would like to share my personal knowledge and experiences as they relate to this proceeding. Because of my previous rebanding experience and the potential that I may use that experience in future rebanding projects, I have followed this docket and the previously related proceeding[2] very closely. My comments will primarily focus on the FCC's relocation process questions found in paragraph 36 of the NOI but may extend to other sections of the NOI.

I applaud the FCC for seeking input on the relocation process and specifically what from the 800 MHz rebanding would be appropriate for the 900 MHz band.[3] It is my experience that the relocations presented to the FCC in the form of Comments[4] by 900 MHz incumbents have been encountered and successfully relocated during the 800 MHz rebanding. The 800 MHz rebanding involved a much wider variety of licensees and system configurations than will likely be experienced in a 900 MHz rebanding. I do not want to discount or diminish the fact that there may be challenging retunes if the 900 MHz band was reconfigured. However, with the combined skills of the equipment manufacturers, licensee's in-house experts and industry consultants, the most challenging relocations at 800 MHz had successful reconfigurations planned and implemented and it seems only reasonable that the same will be true at 900 MHz.

---

[2] RM-11738, Wireless Telecommunications Bureau seeks comment on Enterprise Wireless Alliance and Pacific Data Vision, Inc. Petition for Rulemaking regarding the realignment of 900 MHz spectrum, November 26, 2014 & May 13, 2015.
[3] *See* NOI ¶ 36
[4] *See* NOI Comments due October 2, 2017

Many of the commenters in both RM-11738 and NOI 17-200 referenced critical internal systems and processes that rely on their 900 MHz radio networks such as:

- Daily operations and during emergencies, including disaster recovery.[5]
- Nuclear power plants.[6]
- Public alert notifications[7] and flood warning systems.[8]
- Operational, security, maintenance and safety-related functions.[9]
- Plus many more very important and critical uses of 900 MHz LMR systems.

Members of the FCC that work or worked on a daily basis with the 800 MHz rebanding activities know that each of these referenced 900 MHz applications (Nuclear plants, Emergency Alert Systems, Disaster Recovery, Etc.) were used in identical or nearly identical situations by 800 MHz licensees that were successfully rebanded. Nuclear facilities located in multiple regions around the country required rebanding. Each of these nuclear facilities was rebanded while at the same time protecting the critical support they have come to rely on from their radio communication system. Unusual and unlikely events that can put a substantial burden on a licensee's radio system are also a key part of planning a system retune. From natural events like hurricanes and mountaintop sites being inaccessible due to winter snow to human generated events like the Super Bowl and national political conventions were incorporated into the reconfiguration plans. The critical nature of both

---

[5] *See, e.g.*, Lower Colorado River Authority (LCRA) Jan. 12, 2015 Comments, RM-11738, at 3-4 (LCRA Jan. 12, 2015 Comments); NextEra Energy, Inc. (NextEra) Jan. 12, 2015 Comments, RM-11738, at 5 (NextEra Jan. 12, 2015 Comments).
[6] Letter from Bryan N. Tramont, Counsel, NextEra Energy, Inc., to Marlene H. Dortch, Secretary, FCC RM-11738, at 5 (filed Apr. 29, 2016).
[7] *See* id
[8] *See* LCRA Jan. 12, 2015 Comments at 4.
[9] *See, e.g.*, Oncor Electric Delivery Company LLC Comments, RM-11738, January 12, 2015

800 MHz and 900 MHz systems should never be discounted but at the same time the ability to develop safe and effective plans to reband these systems then the implementation of those reconfiguration plans should also not be disregarded. During the recent 800 MHz rebanding, a variety of retune methodologies were developed for both trunked and conventional systems from multiple equipment manufacturers. For conventional systems, the use of back-to-back repeaters, programming additional systems in user radios or retuning during scheduled system downtime were very effective. For trunking systems, the flexibility incorporated into each manufacturer's use of control/home channels and voice/talk channels facilitated the subscriber unit's ability to have access to old and new channels. Using these now well-established methodologies and industry best practices will ensure minimal disruption and comparable facilities after realignment. Out of an abundance of caution toward protecting the potentially confidential operations of individual licensees involved in these extremely critical 800 MHz retunes as well as to protect the nondisclosure agreements covering those involved, I will not cite specific licensee names or call signs. If appropriate within the FCC's rules, I will offer to discuss these specific cases directly with the FCC provided that all those involved would be covered under the confidentially agreements covering these licensees and the 800 MHz rebanding proceedings. As further support that these types of critical systems were successfully addressed in the 800 MHz reconfigurations, the Transition Administrator FAQ document states, "Determine whether any of the equipment requires special considerations for reconfiguration. Examples include Vehicular Repeater Systems (VRS), irrigation systems, sirens, and equipment in nuclear power plants."[10]

---

[10] Mexican Border Reconfiguration FAQs, http://www.800ta.org/content/resources/faqs.asp,

The 800 MHz rebanding had some massive radios systems with extremely critical uses that were rebanded safely. These included statewide systems with hundreds of sites, thousands of repeaters, tens of thousands of users and numerous interoperable agreements with agencies that crossed federal, state and local governments. This 900 MHz rebanding would not be the same size or scope as the 800 MHz rebanding. Previously presented information indicates approximately 1,300 licensed call signs could be impacted by the proposed 900 MHz reconfiguration and that the 800 MHz 3/3 MHz General Category block (806-809/851-854 MHz) had approximately 2,700 incumbent call signs.[11] Stage 1 of the 800 MHz reconfiguration is a reasonable comparison with the 900 MHz reconfiguration not only because they are both 3/3 MHz but the typical licensee and system configuration are likely very similar in the 800 MHz Stage 1 and the 900 MHz band. Stage 1 reconfigurations generally were less complicated, less expensive and faster to negotiate and implement than Stage 2. This was not because the licensees in Stage 1 were less careful or didn't understand the critical nature of their communications systems. The systems were typically more straight forward, less geographically diverse and had less interoperability than the Stage 2 systems. The 800 MHz Stage 2 had many large Public Safety systems sometimes covering entire states and generally with a much higher level of interoperability than was experienced in Stage 1. The 900 MHz licensees' LMR systems are an integral part of some extremely critical operations and deserve a safe and effective retune plan should the FCC decide to retune the 900 MHz band. The good news for the FCC as well as any impacted 900 MHz Licensees is that this has happened before at 800 MHz and can happen again at 900 MHz.

---

[11] Enterprise Wireless Alliance and Pacific Datavision, Inc. Jan 12,2015,Comments, RM-11738, at 9.

The NOI also questions whether the relocation of incumbent systems could be voluntary rather than mandatory. After having direct involvement with the negotiation of reconfiguration agreements with hundreds of licensees, it is my personal opinion that the FCC is correct to be concerned about holdouts.[12] Without a mandatory process, it is reasonable to expect that a licensee could be unresponsive and just ignore the retune requirements. In addition, a licensee may see this as a method to hold the rebanding process hostage and seek extremely unreasonable compensation to cooperate. In either of these cases, the FCC needs to be able to ensure and enforce participation on a reasonable timeline for all affected parties. Past experience shows that many licensees will want to proceed with retuning their systems once the FCC has determined a retune is required. Therefore, the previous use of a voluntary negotiation period followed by a mandatory negotiation period seems to have proven an effective tool for the FCC in other rebanding projects and should be strongly considered for a 900 MHz band reconfiguration.

One licensee mentioned that initial engineering estimates indicated the potential for a doubling of their sites[13] and then went on to say "the number of sites and the overall system capacity would need to be doubled at a minimum."[14] A doubling of sites was never required in the 800 MHz rebanding! Even the discussion, let alone the actual engineering justification, of a permanent additional site was exceptionally rare in my experiences at 800 MHz. I have not seen any combiner channel separation studies by 900 MHz licensees that identify their actual as built systems and how the combiner separation of these live systems would be impacted by the 900MHz

---

[12] NOI at ¶ 37.
[13] NextEra Energy, Inc. (NextEra) Jan. 12, 2015 Comments, RM-11738, at 3.
[14] *See* id at 10.

rebanding being proposed by PDV/EWA. Without any specific and detailed supporting documents as to how an estimate of doubling of the sites was reached, it seems much more likely and reasonable to look at past experiences that did not require even a single new permanent site or additional antennas.

I support the following statement from PDV because for over 10 years I was fortunate to lead a team directly involved in the massive, complex and successful rebanding project referenced.

> "The more recent 800 MHz rebanding project demonstrates that the facilities of the most complex Public Safety systems supporting mission critical operations that cannot tolerate any downtime can be modified safely to comparable frequencies. Approximately 1,300 Public Safety systems, some with hundreds of frequencies and sites over entire states or very large regions, as well as other incumbent systems, including those operated by utilities, transportation providers, transit agencies, large manufacturing facilities, and virtually every other type of business in this country, have been rebanded successfully."[15]

Based on the proven success at 800 MHz, the FCC should feel confident that the LMR industry and those involved in this preceding will be able to safely and effectively retune the 900 MHz systems should the FCC determine this is in the public's interest.

Respectfully submitted,

JOHN WEHMANN
6260 S. Vinecrest Dr.
Salt Lake City, UT 84121
(801) 265-1849
john.wehmann@gmail.com

---

[15] pdvWireless October 2, 2017 Comments, 17-200, at 18-19